

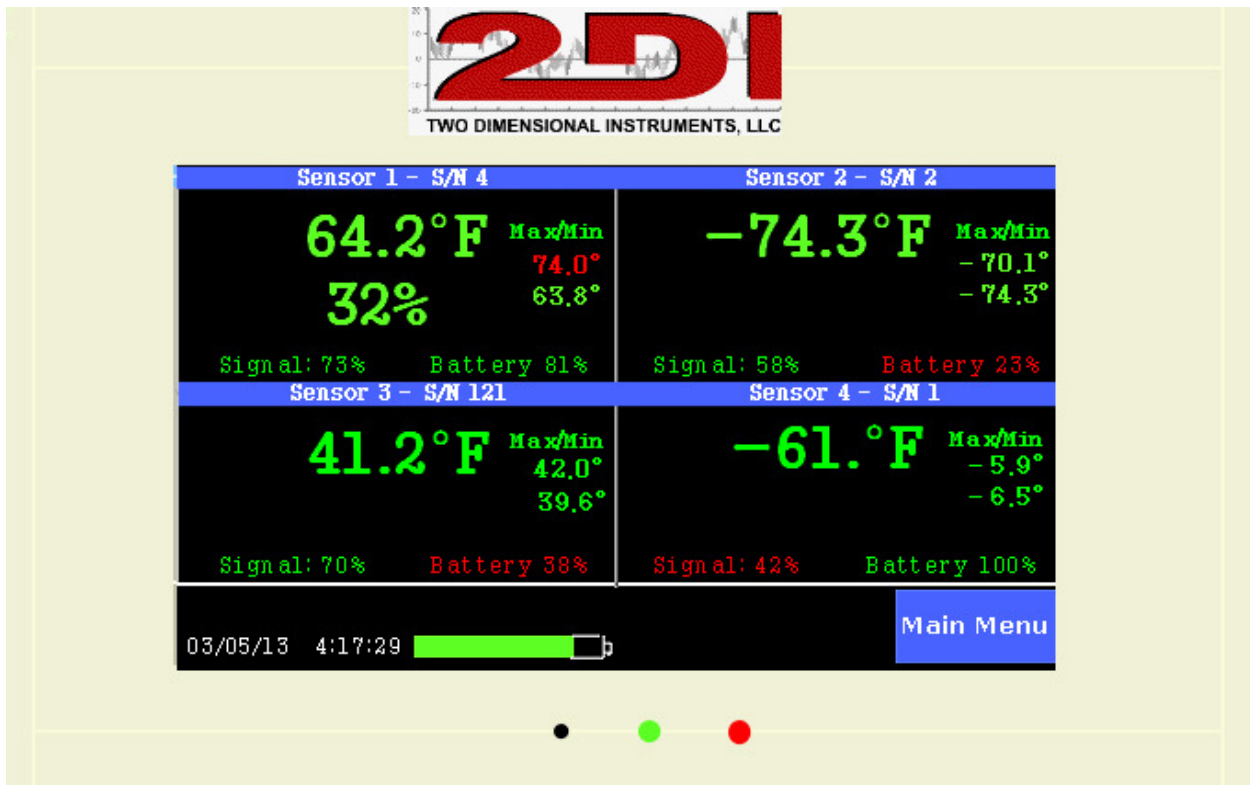


APPLICATION NOTE: 103

Monitor cold storage rooms with the ThermaViewer

Food manufacturers, distributors, and resellers who store inventory in cold storage rooms need a means of monitoring and documenting the storage conditions. In many cases, their customers want proof of storage conditions when they take delivery of the product. Additionally, most countries have laws dealing with how materials must be stored and the regulatory agencies of these countries want to see the records of the storage temperatures during audits and inspections.

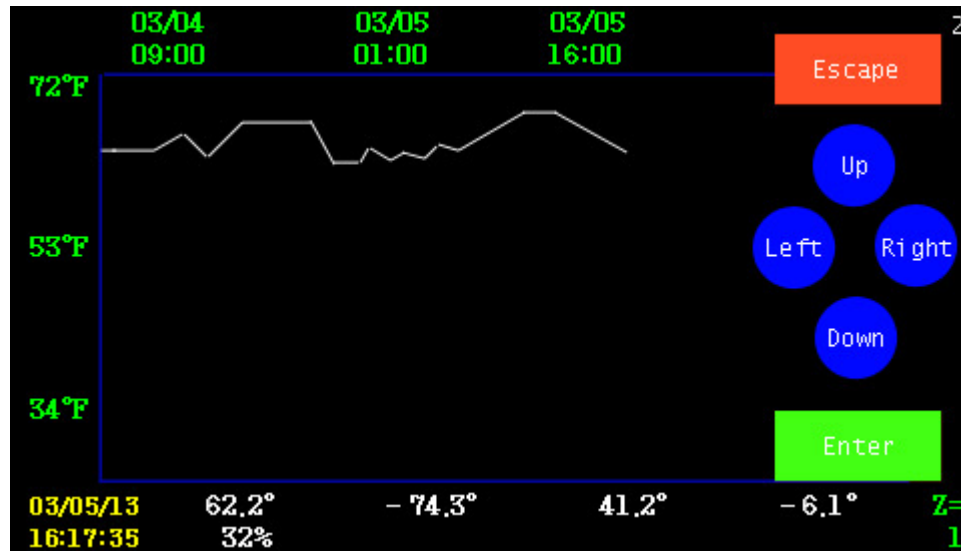
Traditionally this monitoring and documenting was done manually. This required an employee to periodically note the temperature of a cold storage room on a piece of paper. This, of course, did not result in very accurate records since the temperatures could fluctuate when the employee was not looking at the thermometer. Many businesses now use chart recorders to record the temperature twenty-four hours a day, seven days a week. They are much better than a manual system, **but** they still have serious drawbacks. They have moving parts, which means that they eventually wear out. But the real problem is that someone has to change the chart and pen frequently, the charts are hard to interpret, and they must be stored in filing cabinets or boxes. This can get time consuming and expensive.



A much better solution is the TV2. It is like a chart recorder in that it displays a chart of the temperature history, but it can receive temperatures from four wireless sensors. It stores over 1 year of temperatures for each probe if set to store a temperature every ten minutes. And the data can be archived electronically. The Charts are very easy to read and can be printed out at any time. TV2 sensors can be placed in different parts of the warehouse to map the temperature.

The status screen shown above, when touched, will show a temperature history chart of that sensor, which can be copied to a computer and printed out at any time. Or it can be automatically copied to your computer and stored on the hard drive.

APPLICATION NOTE: 103



The temperature history of one of the sensors

What to Order:

- TV2 ($\pm 0.3^{\circ}\text{C}$) display, with relay and software \$ 679.00
- WS4HITMITM wireless temperature and humidity sensor \$ 239.00

Optional Items:

- WS4HITEM wireless temperature only sensor \$ 269.00
- WS4HETC-K wireless thermocouple sensor for extreme temperatures \$ 279.00
- APD-10 Auto-dialer with cable for phone call alert \$ 249.00
- AV50 Local Alarm (siren & strobe) \$ 50.00

Installation and Setup

Mount the TV2 near the cold storage rooms. The wireless sensors are normally placed about 1/2 way up from the floor and about 1/2 way back inside the unit to monitor the average temperature maintained within that space.

The following are suggested settings, but you should use the settings required by your standards.

Suggested settings:

Freezer Room 1	
Store Data every	10 minutes
Recorded Temperature	Average
Temperature Scale	C°
Maximum Display Temperature	10°F
Minimum Display Temperature	-40°F
Relay Enabled ¹	
Activate Relay for	0:10 (min:sec)
When Temp > -5°F for more than	30:00 MM:SS
When Temp < -40°F for more than	60:00 MM:SS

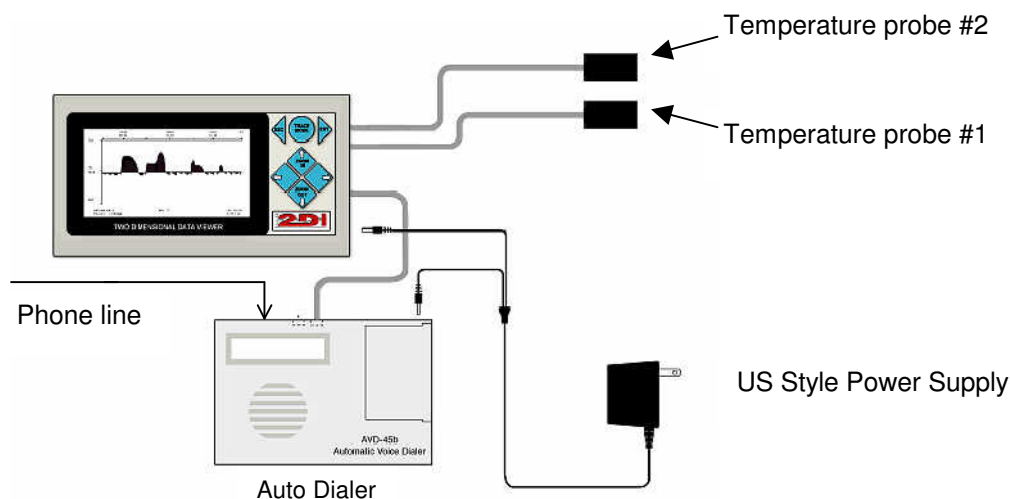
Cooler 2	
Store Data every	10 minutes
Recorded Temperature	Average
Temperature Scale	C°
Maximum Display Temperature	60°F
Minimum Display Temperature	20°F
Relay Enabled ¹	
Activate Relay for	0:10 (min:sec)
When Temp > 48°F for more than	10:00 MM:SS
When Temp < 34°F for more than	20:00 MM:SS

APPLICATION NOTE: 102

Optional Auto-Dialer

The ThermaViewer comes equipped with a dry-contact relay that can trigger an alarm or auto dialer. Each sensor has its own high and low trigger point. The relay will be closed any time an alarm is triggered. Once the relay has been triggered, the alert clock is reset.

The auto dialer, when triggered, will call four phone numbers (i.e. phone, pager, answering machine or service) and leave a 16 second message. It will keep calling the four numbers until someone picks up and the message is delivered.



The auto dialer should be set as follows:

- 60 second exit delay
- 20 second entry delay
- N.O. (meaning that the relay is normally open).
- MOM (meaning that it only takes a momentary activation from the relay to trigger the dialer).

A relay test function on the System Parameter of the TV2 causes the relay to be immediately triggered. Entering 'yes' in this field causes the ThermaViewer causes the auto dialer to immediately call the four phone numbers stored in its memory.

When testing the relay and/or auto dialer allow 90 seconds to elapse between the time you exit the programming mode of the auto dialer and you activate the relay.

Technical support for Auto Dialer only (858) 413-0149